THE

SOUTHERN AGRICULTURIST.

JULY, 1828.

PART I.

ORIGINAL CORRESPONDENCE.

ART. I.—*An Essay on the Culture of the Grape Vine, and the making of Wine; suited for the United States, and more particularly for the Southern States.* By N. HERBEMONT, of Columbia, S. C.

"And Noah began to be an husbandman, and he planted a vineyard."—
GENESIS c. IX. v. 20.

(Concluded from page 249.)

THE vessels are to be of oak, though some other kind of wood may also be suitable. I have heard of the ash and cherry wood, the latter of which is supposed to impart to the wine a pleasant flavour. Oak, however, is most generally used. When they are made purposely, it is best to use white oak, in preference to the other kinds. The staves ought to be very thick, in proportion to the size of the cask, thicker than those usually made for any other liquid; or the fermentation of new wine exerts such a power, as frequently to open joints which had been considered as perfectly tight. Casks for wine, then, ought to be made by a first-rate cooper; and care out to be had, that, in the making, the inside be a good deal burned or charred with shavings, but not so much as to open cracks in the wood. This partial charring, diminishes, considerably, the taste of the wood which might be injurious to the wine. When old casks are used, those having contained French brandy are to be pre-

ferred; and after them, those having had good wine in them. In preparing the latter for new wine, one of the heads must be taken out, and all the tarter which adheres to the inside, carefully scraped out, and the vessel thoroughly washed with lime-water or lye of ashes, and afterwards with clean water, and wiped dry before the head is put back into its place.

When they are used for the must, just from the vat or the press, nothing else is to be done to them, though some recommend to put a small quantity of French brandy into it, just enough to wet it. But, when the casks are intended to contain the wine, when it is drawn off from other casks, either the first time or afterwards, the casks are further prepared, by burning in them, immediately before they receive the wine, a sulphur match, prepared by dipping stripes of coarse linen or cotton cloth, into melted sulphur or brimstone. You take a few inches of such a match, more or less, according to the size of the vessel, and with a wire that will reach to about the middle of the cask, terminating in a hook. To this hook you stick your match, and having lighted it, put it down the cask, and loosely stopping the bung-hole till the match is burned, after which you fill the cask. Although wine very readily imbibes any foreign taste, it will not retain long that of sulphur, so as to be perceptible, unless much too great a quantity has been used. The effect of this match, is to prevent the wine from turning acid.

Wine vats are made of different forms and different materials. It is said the best are made of stone, or even of brick. These are of a square form, the joints being well filled with a good cement, which is also used for plaistering the inside very smooth, and in the best manner possible, that it may neither crack nor peel off. Such vats are also used in some countries for keeping wine in; but, as these are only wanted where great quantities are made, it is not worth while to say anything more concerning them at present. We shall then, notice more particularly, those most commonly used. They are made of oak wood, well seasoned, and of a dimension proportionate to the quantity of grapes to be made into wine. They are generally made narrower at top than at bottom, that they may be made tight, by driving the hoops without any difficulty. It is better, perhaps, to make them perfectly cylindrical inside, and the outside wider at bottom, which is easily done, by having the

staves of double thickness at the lower end. This is sufficient to allow of driving the hoops, so that the vat may be perfectly close. I shall here give the dimensions of one I had made in this manner, noticing, at the same time, the quantity of wine that may be made in it at a time, so that persons may regulate the size of theirs according to circumstances.

The internal diameter of the vat is full four feet six and a half inches, and its depth three feet two and a half inches above the bottom. A quantity of mashed grapes which yielded one hundred and fifty four gallons of must, (these were the Madeira grape, which are uncommonly juicy,) nearly half filled the vat, covering the bottom to the depth of eighteen and three quarter inches. I conclude from this, that this vat is large enough to make nearly three hundred gallons of wine at once, with grapes that yield a great deal of juice. The staves average four and three quarter inches in width, of equal width all their length, one inch thick at top, and two inches at bottom. The bottom is made of planks one inch and a half thick. There is a cover of fine thin boards made in two parts for the convenience of putting it on and off.

Before a vat is used, it ought to be prepared much in the same way as is recommended for casks. The way I prepared mine was, after having kept it full of water for some time, to make it perfectly tight, and also to dissolve such remaining parts of the sap as might be yet in the wood, and give a taste to the must, I white-washed it well with lime about a week or two before it was wanted. I then had it scoured and well washed, and I found this to answer the purpose very well.*

Another kind of vat very highly, and, I believe, very justly recommended by Mr. Dafour, in his valuable work from which I have quoted before, well deserves a particular des-

* As soon as the planks had been sawed for the staves as well as the bottom, they were put into the water of the mill-pond for seasoning them. This method is particularly suitable for our purpose, as by this means, the sap is dissolved and washed away, and the wood is left more free from taste as when seasoned by any other means. The planks remained thus immersed in the water for six or eight weeks, after which, they were piled up with sticks between them, to dry and keep them from warping.

For smaller quantities, I, of course, use smaller vessels, such as a tub, a hogshead, or a half-barrel, &c.

cription, which I will give in his own words. It begins at page 237, first edition.

'After the Vineyard has been established, the next thing 'is the preparation to receive the crop and make the wine. 'A good cellar, well furnished with vessels, is nearly as ne-'cessary to make wine as the Vineyard;—you may have 'plenty of grapes, and yet not be able to make good wine 'without a cellar, except by brewing and mixing it with 'drugs or spirits, and that is not that genuine wine spoken 'of in Holy Writ, *that cheereth the heart of man.* It is 'a known fact, that distilled liquor produces on man quite 'a different and opposite effect; instead of dilating the heart 'it contracts and crisps it, and light wines are reputed the 'most wholesome, but require good cellars to keep them.

'The first vessel, where the grapes are to come in from 'the Vineyard, if white wine is not intended to be made with 'black grapes, is a vat holding enough grapes for one press-'ing; for a strong press, it may be six hundred gallons; 'but since it has been found out, that some spirit issues out 'of the wine with the gases, proceeding from the fermen-'tation, I have proposed to put the bruised grapes in a tun 'holding from five hundred to one thousand gallons, according 'to the strength of the press, well iron-bound, and strongly 'made, able to bear an inside pressure of from five to ten 'pounds to an inch, having a small door or wicket, cut or 'sawed at the lower edge of one of the heads, so that the 'same piece will make the whole tight, by shutting from in-'side, being drawn through by a key, iron screw, or staple, 'and just big enough to admit a common man to go in. 'The tun must also have a big bung-hole on top, six or 'eight inches in diameter, that the grapes may be easily in-'troduced into it. Two of such vessels set near a press, so 'that the liquid contents may be drawn by a cock, and the 'murk or husk by the wicket, will be sufficient even for a 'large Vineyard.'

The advantage contemplated by this kind of vessel for fermenting, is one that has been suggested by some of the most eminent writers on this subject, and strongly advocated by Mr. Dafour, is to prevent the escape of the carbonic acid gas, which is considered an advantage to be retained. In this manner, the fermentation goes on more slowly, but will still go on perfectly with due attention. This gas may also be collected; and Mr. Dafour has found, by actual experi-

ment, that a considerable quantity of alcohol escapes with it, which may be converted into brandy, by distilling the water through which it has been made to pass. This subject would, however, carry us too far for the present. We must now consider the best kind of press for our purpose.

Any kind of press, such as used for cider, for packing cotton, &c. will answer the purpose, making such alteration in the latter, that may be necessary. Screw presses are always used in Europe, and some of them are very complicated and expensive structures, frequently, I think, unnecessarily so; for, the simpler machinery is, provided it has the power and the conveniency requisite, the better it must be. I have a press of an excellent construction, any number of which may now be had, from circumstances not necessary to be noticed here, at a very cheap rate. It is made with two double screws of cast-iron. I call them double, because the head, or rather mortice made to receive the lever, by which the screw is turned, is in the middle, being left square for the purpose, and it terminates at each end by a screw, which works in cast-iron nuts inserted into two wooden beams, one above and the other below. The screw part at each end, is four feet long, and the square part between them is two feet; so that the whole screw is ten feet long, and two such screws are used for one press. They pass through the beams, leaving a distance between them of eight feet. The beams are about two feet wide and one foot thick. On the middle part of the lower beam, (which lies on two pieces of timber laid flat on the ground, the screws, of course, run into the ground at the lower end, into holes made for the purpose,) is fixed in a temporary manner, a layer of planks about five inches thick, so as to make a platform five or six feet square. A circular groove, of about three feet or more in diameter, is cut in the upper surface that the juice or must may run out into a tub placed below to receive it, and also to retain in its place a kind of cage placed upon it to hold the mashed grapes to be pressed. This cage is made cylindrical, of oak planks or staves, four, five, or six inches wide, about three feet long, and one and a half inch thick. These are connected together by means of hinges, two of which, the working pin so contrived, as to be easily put in and taken out. These staves are not fastened by the hinges so as to be close, but so as to have a space of one-eighth or a quarter of an inch between them, to allow the juice to run out

into the groove in the bed below. This cage being in its place and filled with the bruised grapes brought from the vat—planks, full of small holes, and filling loosely the inside of the cage, are placed on the grapes;—then putting pieces of scantling across them, with a large block upon them, so as to reach near to the upper beam. The groove in the bed has, of course, an outlet, under which a tub is placed to receive the must as it runs out. Every thing being thus well prepared, and having been particularly careful in laying the mashed grapes as evenly as possible, two men, with one lever each, turn each of the screws slowly, and carefully examining that the blocks on the grapes go down straight and level. When these two men have pressed down with their levers, as hard as they can, with the assistance of two more men, they use longer and stronger levers, turning the screws slowly and carefully as before. When the pressure is as hard as can be given, let the whole remain for a while, as long as the juice runs pretty freely, and then unscrew till the upper beam is run up nearly to the end of the screws. You, then, with a hammer, drive out the loose pins of the two hinges noticed above, by which means the cage will open, and you can take it away, leaving the grapes or rather murk in the form of a hard cake. This cake you take out with a spade, loosen it well, and, having fixed the cage in its place again, return the murk into it, that it may undergo another pressure; and this operation may be repeated once or twice more.

I have been thus particular and minute in the description of this press, which is partly of my contrivance, as I could give no plate to facilitate the explanation, and I hope it will be intelligible.*

I never have seen a press like this in France; but I am satisfied it is equal in power to any, and superior in simplicity. As it is the simplest, so it is of the least expensive construction. As regards the cage, which is somewhat ex-

* All the staves that form the cage being joined to each other by hinges, a smaller one may be conveniently contrived as I have done, by having two more hinges fixed with loose pins, by which means you may take out a section of the cage, and thereby have a smaller one in which you may press a smaller quantity of grapes. In this case, there must be, of course, another groove inside the large one, so as to fit the smaller cage.

pensive, on account of the number of hinges it requires, other equally good and cheaper contrivances may be used.

Miscellaneous Observations.

There are many other modes of proceeding in the making of wine besides the one above detailed; but it was thought that most commonly used, as being the plainest and most generally useful, was entitled to the preference in this very imperfect essay. For example:—some persons prefer separating the berries of the grapes before they mash, and ferment them; so that they have none of the stems. This is thought proper for very particularly delicate wines; but it is not generally approved, as it is believed the wine thus made does not keep so well. The stems of the grapes are, besides, thought to impart to the wine a slight astringent taste, which adds to its salubrity, and is in great estimation. Champaign is made without the use of a vat at all for fermenting, and the grapes having been gathered in the morning *before the dew is off*, they are carried carefully without bruising them, and put at once into the cage of the press and immediately pressed, the grapes not having been previously mashed. This is done chiefly with a view to avoid colouring the juice by fermentation with the skins; for, although Champaign is the most colourless wine, it is made with black grapes. Other wines, on the contrary, are made in a very opposite manner, taking care not to gather the grapes while *the dew is on them;* but after they have been gathered, they are spread thinly, and suffered to remain till they are almost *converted to raisins* before they are mashed, fermented, and pressed. The same object is sometimes obtained by *twisting the stem* of the grapes so as to interrupt the communication of the sap, and let them remain till they are partly dried. The object of this is evidently to evaporate so much of the aqueous parts of the juice, that what remains may be capable of producing a rich and strong wine. The same effect is also obtained by reducing the quantity of must by boiling. All these different methods have their advantage; but it is always at the expense of quantity, and it is not probable that a method by which the quantity of produce is very greatly diminished, will be preferred in the beginning of the establishment of a Vineyard, when the crop is generally small enough.

If greater strength is required for the wine than the mere juice can produce, some other means must be adopted by which the quantity may not be diminished. This may be the more necessary for us for three reasons:—first, the grapes of young vines are not so rich as those of older ones;—secondly, we have not yet cellars cool enough to enable us to keep long very light and delicate wines;—and, thirdly, we are so accustomed to strong wines in this country, that the merits of delicate light ones are not sufficiently appreciated. The most obvious and readiest method of adding strength to wine is, to mix with it a quantity of brandy; but those who recommend this, are not aware, that by mixing brandy with wine, it deprives it of that delightful liveliness and brilliancy which is one of the best qualities of wine; for, if one drinks wine with a view to produce intoxication, a much more simple way of producing this effect, is to drink brandy. (I don't give this as a rare secret.)

The grapes that yield the richest and strongest wines are those that contain most saccharine matter, which full maturity does not always produce. This is the case, as above stated, with young vines. It is also the case in cold and rainy seasons, when the grapes are filled with too watery a juice. It must be allowably, then, to add to the grapes what they may be deficient in; and it is obvious, that, by adding sugar, this will be obtained. This sugar ought to be added to the grapes in the vat before the fermentation takes place. In order to ascertain the quantity of sugar necessary, an instrument called "*Areometer*," "*Hydrometer*," and "*Pese Liqueur*," is the most convenient. That which I use is "Beaume's Areometer for Syrups." This instrument is a glass tube, with a bulb at one end with mercury in it. When it is immersed in pure water, it will sink to O. in the scale of degrees marked on it, and by adding sugar to the water, the instrument will rise in proportion to the quantity of sugar dissolved in it. The quantity of sugar naturally contained in fully ripe grapes can thus be ascertained, so far as is practically useful. The juice of some grapes is so deficient, that the instrument will only rise to five or six degrees; whilst others of those I have tried, will rise to from ten to thirteen degrees. Now, by adding so much sugar to the must as to bring the instrument to mark 14° or 15°, wine sufficiently strong is obtained, and this is done with from half a pound to one pound and a half of the best dry brown

sugar per gallon of must. If stronger wine is desired, the addition of more sugar will certainly produce the desired effect, without giving to the wine a sweet taste; but the sugar will be all converted into alcohol by fermentation. The juice, of course, must be tried with the Areometer before the fermentation takes place; for, if you wait until the fermentation is over, the instrument will sink deeper than O.; and the stronger the wine is, the lighter it is; and consequently, the deeper the instrument will sink into it; so that the heavier the must is made with sugar, or is so, naturally, the lighter and stronger the wine will be when it is fully made.

As this instrument is not always and everywhere to be got, something approximating to its effect may be obtained, by making use of an egg, and trying it with different quantities of sugar dissolved in water, or, which is best, in must. It must be observed, that taste is not a test to be trusted to in the grapes or their juice, for it takes very little sugar to render water very sweet to the palate, and yet not be sufficiently so to produce a sufficiency of alcohol to make a durable wine.

The preceding pages will be found probably to contain all the most essential necessary directions for cultivating the Vine successfully in this country, and for making wine, although they form a very imperfect essay, particularly as regards the style and the arrangement of the different parts of the subject, and the elucidating, in a clear manner, many parts which the writer found very difficult to do without the assistance of plates. He trusts, however, that, with patience and perseverance, the readers will generally come at his meaning. He does not know, whether he ought to offer an apology for publishing so imperfect an essay on a subject so very interesting; for he may be asked why he has not done better, if he had it in his power. To this, and much more that may be urged against him, he can only say, that he could not very easily have done much better in the time he had allotted to himself, viz.;—until the approaching maturity of the grapes, unless he had encroached too much on his other avocations and on his convenience. Some may say, that if he could not do full justice to the subject, he ought not to have undertaken it at all. There is something rather forcible in this; but, before its due weight can be as-

certained, the objectors ought to know exactly the degree of importance which this writer attaches to this subject, and the consequent earnest or even anxious desire he has to see the adoption of a branch of culture, the various benefits of which he has the most exalted opinion of. Upon due consideration, he thinks it is best to make no apology at all; for something like presumption might, perhaps, be found intermixed with his enthusiasm and wish to do a great good.

He cannot, however, yet dismiss a subject, which cannot be exhausted by one hundred times the number of pages here dedicated to it, without promising, that he will, occasionally, furnish such observations as he may think useful, to fill up, and, perhaps, *encumber* a few pages of the "Southern Agriculturist." He would most earnestly recommend to all who have it in their power, to search among our native vines for such of them as are most likely to make good wine; and there are, no doubt, many treasures of this kind scattered through our forests. Several kinds have already been found, that far exceeded the most sanguine expectations; and it would be the most silly presumption to suppose, that the very best have been discovered at the very onset of the search. There cannot be a doubt, that cultivation will improve the native vines; and, by selecting those that bear the greatest quantity of fruit, are the most juicy, and contain the most sugar, we can scarcely fail in producing grapes and wines of very eminent merits. Among the many different kinds of foreign grapes lately imported into this country, some will, no doubt, be found to thrive in our various soils and climates; although there are reasons for believing that many of them will not. It is, therefore, very desirable, that extensive experiments be made on this subject, although they are very expensive.

ART. II.—*Secrets in Cotton Revealed; by an* "ENEMY OF SECRETS."—*Second Secret Revealed.*

(Continued from page 165).

This relates to the *manner of culture*, and is revealed in the single word EARLY. Nothing is more preposterous, than the pretensions or expectations of the Planter, who

pays no regard to this. Though a combination of peculiar circumstances may render him successful, still he does not deserve, and may not claim, the credit of being a good Planter. This rests entirely on his skilful management of a crop, and not on the strained efforts of nature to produce it. But I have nothing to do with the merits of Planters—therefore to my object.

Listing

Should be done *early*. This is no more nor less than manuring; and the sooner the surface of the earth and the vegetable substance upon it are thrown together, the nearer it will approach the quality of other manures, and the greater will be its use. It would be better if done in the fall, while vegetation is alive.

Draining

Should be done *early*. A great proportion of lands, unless drained, are, most of the year, completely saturated, and often flowed with water—than which nothing is more injurious to the growth of Cotton. Such lands should be well drained long before the Cotton is planted, that the earth may become warm;—heat being absolutely necessary to success.

Manuring.

This is all-important;—furnishes an ample subject for a *distinct* paper. Here, I will only observe, that it is taken for granted, that every Planter makes use of some kind of manure. And, as a general rule, whatever it may be, it ought to be placed on the listing, or in the hills, according to the quantity. If a great quantity be used, it is better spread on the listing; but, if small, placed on the hills, that the Cotton may *early* feel its influence. When placed under the listing, this is not felt until late in the season; and, if it happens to be wet, it generally gives the Cotton a second growth.

Banking

Should be done just before the Cotton is planted, that it may come up *early*. The beds should be rather small, that the seed may immediately come in contact with the manure, that there may be an opportunity to enlarge them by hoe-

ing, and that the principal root of the Cotton may reach the soiled earth below the listing.

Planting

Should be *early*. This ought to be enforced with an emphasis. Cotton should be planted from the *tenth to the fifteenth, or, perhaps, the twentieth of March.* And, though it should be injured, or partially destroyed by winds or frosts; still, what remains, will be worth enough more, to pay for planting over. Should the scarcity of seed be an objection, it may be removed, by planting less. Indeed there is generally twice as much seed used in planting as is necessary, or even desirable. Six or eight seeds are as many as ever ought to be put in a hill; and these should be so placed, that the plants may not touch each other. Where they are all thrown in together, the Cotton is much injured in thinning—the roots of the plants pulled up, loosen the roots of the others, and backen their growth.

Hoeing

Should be commenced *early*—soon as the grass appears. And it should be stopped *early*—soon as the Cotton is so far advanced, that it will sustain no injury from grass, which often does less hurt than hoeing. Besides, the beds should never be hoed down, (if at all,) more than once. This mode of hoeing is very injurious;—it destroys many of the lateral roots of the Cotton. The grass should be picked from around the Cotton, and the earth hauled up to the bed. In this way, it becomes larger, as required.

Thinning

Cannot be too *early*, provided two stalks to a hill can be secured. And generally it is better to risk loosing one of these, than to omit thinning until too late, which is almost certain ruin to the crop. If a number of plants are left in the hill, until they grow to any considerable size, they injure each other by their constant motion; and, when part are taken away, the rest are nearly destroyed by the injury which their roots sustain.

Picking,

If the quality of the Cotton is any object, must be *early*. It should be done as soon as the pod is sufficiently opened.

The colour and quality of Cotton is seriously injured by the dew, rain, frost, and sun ;—it should feel their influence as little as possible. Nothing is more absurd than the opinion, that it must remain in the field, until a hand is able to pick a certain quantity a-day ;—better if the whole field were picked every few days, though but a small quantity be obtained by each hand. Perhaps the appearance of Cotton depends as much, or more on this, than any thing else.

Drying

Should be as *early* as possible after picking. Cotton is not to be put up without being dried—it heats, and sometimes is nearly spoiled. Neither is it to be dried in the sun —this changes its colour, and injures its staple. But it should be dried in the *shade ;*—a convenient house, perhaps, with open doors and windows. Cotton thus dried, is prepared for *cleaning*, respecting which, there is *another secret.*

I have here designedly omitted the subject of PLOUGHING, which Planters generally have, from prejudice, proscribed ; *prejudice*, I say—because reason, common sense, nor facts, have ever entered their protest against it. This might easily be made to appear,—and may, perhaps, with your indulgence, in some future number of the "Agriculturist"

This paper, Mr. Editor, is submitted to your better judgment. Should it meet your approbation, and obtain a place in your Journal, you will confer a new favour on every Planter, whom it may induce to do, what he does, EARLY —and your friend,

AN ENEMY OF SECRETS.

ART. III.—*The Process for making Castor Oil ; by a* CORRESPONDENT.

Dear Sir,—In compliance with your request, I send you the process for making Castor Oil; and hope that it may prove useful to the gentleman who requested the information.

After collecting the bunches of seeds, expose them to the sun until perfectly dry—then lay them on a scaffold, and beat them with a very small flail, which will separate the

hull from the seed;—then pound them in a wooden mortar till the shell of every seed is broken. Have a vessel of water at boiling heat, which you will then put the seed into from ten to twenty minutes. A dirty scum will rise which must be taken off;—the clear Oil will then rise, which must be put into a second vessel without water, to be acted on by a slow fire, not to arrive at boiling heat;—as soon as it appears clear and transparent, taking off the scum that may appear, (which will make an inferior quality of Oil;)—it is ready for bottling, as soon as cold exclude it from the air. The kind of Palma-Christie said to be the best for making Oil, is of the species where the stalk is pink.

P. S. The quantity of water in the first vessel must be as three to one to the quantity of best seed, and stir frequently to prevent its adhering to the bottom of the vessel, which would give it a burned taste. Be careful that it does not boil over, as it will take fire. I remain your's, &c.

S.—

Note. We thank our Correspondent for the information given; but we wish that he had also given the mode of culture, and the quantity yielded to the acre. We request him to furnish us with this information, if in his power. This need not, however, prevent others from also communicating what they know on the subject. It is said to be profitable, and we wish to throw as much light on it as possible.—*Ed. So. Agriculturist.*

ART. IV.—*Remarks on the Culture of the Olive Tree; by* J. COUPER, *of St. Simon's.*

We earnestly recommend Mr. Couper's letter to the attention of our readers, and to every Planter and owner of land in the Southern States.

The plan he is pursuing with his Olive plantations, is highly judicious and public spirited; and is precisely, we believe, that practised in countries, where the culture of this invaluable tree is best known. The use of the land is not lost while it is advancing to maturity;—on the contrary,

the same crops, or, at all events, *some crops*, may be annually planted, cultivated, and gathered; or the fields may be thrown out of cultivation, as is done in Cotton planting—provided a certain space around each Olive plant, or young tree, be kept free from weeds and grass; and provided, of course, the fences are kept up.

The tree, after it comes to maturity, is everlasting! Nothing that any Planter can do, will add so much to the value of his land, or so much insure a certain and never-failing income to himself and his posterity, as planting the Olive.

Fields, however well cultivated in common crops, grow up in wild woods if thrown out for a few years. Buildings of the most useful and permanent kind, hasten to decay from the hour they are finished;—and thus plantations, unless kept in order, and cultivated, speedily become mere waste tracts of land or wilderness. But the Olive tree, if once brought to maturity, is everlasting as the soil. Even if abandoned for years, the trees still continue the same, and as soon as the culture and care of them is resumed, the annual income is immediate, and secured to the happy possessor.

During the long and iron reign of Turkey over Greece, a period of tyranny and barbarism which would have depopulated any other country, and reduced it to desolation, the inhabitants have lived, and even in some measure thriven. It was not until their oppressors began to dig out the Olive trees by the roots that they reduced them to starvation. Formerly, they contented themselves with merely cutting them down;—but such is the durability of the root of the Olive, that the tree recovers itself so long as that is left in the ground;—and hence it is, that the Greeks, though driven to the mountains, returned when the Turks had left their fields, and as the old Olive roots soon put out bearing branches, the country speedily arose from its desolation.

Near Terni, (the birth-place of Tacitus,) is a plantation of Olive trees two miles square, the trees of which are of such an age, as to lead to the assertion, that they are the same mentioned by Pliny, as existing there in the first century!

We refer our readers for further authority on this most important of all subjects, (agricultural subjects we mean,) to the Southern States, to the observations of Mr. Jefferson, which, we think, cannot be too often brought to the no-

tice of our Planters, and which will be found under our Miscellaneous head.—*Ed. So. Agriculturist.*

To the Editor of the "Southern Agriculturist."

Dear Sir,—I got two hundred young Olive trees from Provence, via Bourdeaux and Charleston. They were about one inch in diameter, three and a half feet long, without branches. I received them on the first May, 1825, and immediately set them out; and during summer watered them carefully. About eighteen trees died, principally from being planted in low ground;—with a view to get early cuttings, I permitted most of the sprouts to remain. The trees are set at twenty-five feet distance, and potatoes planted in the ground as usual. My information was, that Olive cuttings would not grow until they were at least one inch in diameter. In February last, I trimmed the limbs of that size that could be spared, and divided them into pieces of fourteen inches, and continued cutting the limbs from one inch to two-tenths of an inch in diameter. I set them in the nursery, slanting the lower end eight inches deep, the upper, one inch above ground; and thus set out three hundred and thirty plants. A day or two ago I looked over them, and found that two hundred and seventy had sprouted—and I have no doubt that most of the others will sprout also. I particularly observed that those of two-tenths had sprouted as freely as the others.

From the appearance of my trees I expect to obtain two thousand cuttings next spring, which I shall set out in the nursery, and hope, in three years, they will be fit to transplant, which I shall do at thirty feet apart, to the extent to which I can find plants. Neither the expense nor trouble will be great—and, for at least many years, Corn, Cotton, and Potatoes will grow amongst them.

The Olive, I think, will bear frost better than the Sour Orange; but my experience is insufficient on that subject. There are many varieties of the Olive, some of which stand frost better than others, particularly the *willow* Olive. I do not know the description of my trees.

I am told that on Cumberland Island there are many bearing Olives, and that there are also several trees of large growth near Beaufort, and even in Charleston. I hope the

gentlemen who own these trees, will take the trouble to prune them, and plant the cuttings.

I have made no satisfactory progress in the culture of the Vine. I have, indeed, a variety of vines. If I succeed, I shall communicate the result;—at present, I fear the mocking bird will defeat my endeavour, and I am even alarmed that the Olive may not escape them. I am much pleased with N. Herbemont's sensible treatise on the culture of the Grape. From gentlemen like him, who know the European culture, and haye also had experience in our climate, we can alone expect information and instruction.

Our very warm and open winter has produced some unexpected results. My peach and plumb trees, have only shown leaves since the commencement of this month. I find this generally the case. I can only suppose the last year's leaves did not drop till late in the spring, and that some rest is necessary between the old and new foliage.

Another strange matter has occured here, I presume from the same cause. Some plantations on the south end of this island, have been seriously invaded by an army of *wood rats*. One gentleman has had his crop of corn twice destroy ed—and, notwithstanding he has killed one or two thousand, and fed them with near forty bushels of corn, he has not been able to save his growing corn. Another gentleman, is manuring his crop with dead rats. Those vermin are generally dormant during winter. We know they lay up magazines of provisions. The heat may have kept them active, and their stores being exhausted, they forage abroad. I hope they may not reach our end of the island. I remain, dear Sir, very respectfully, your most obedient servant,

JOHN COUPER.

ART. V.—*Remarks on Slip Potatoes; by* CHARLES E. ROWAND.

To the President and Members of the Agricultural Society of South-Carolina:—

Gentlemen,—Agreeably to the invitation given by the Committee of Arrangements, I avail myself of the opportunity, of becoming a Candidate for the Premium on Sweet Potatoes, and lay before you an account of the culture and product of one acre of high land unusually manured, which

was planted in vines of the Yam Potatoes selected for the purpose. From a field of fourteen acres which had been planted in oats in February 1827, and reaped in June, one acre was selected, upon which fifty single horse cart-loads of well-rotted stable manure, and twelve bushels of common shell-lime were strewed and scattered promiscuously among the oat stubble. The weather being dry, and the ground hard from the long continuance of drought, the plough would not penetrate the earth but with the greatest difficulty; it was, therefore, dispensed with until the fourth and fifth of July, when a fine shower of rain fell;—the land was immediately ploughed and harrowed, and on the sixth thrown into beds, and planted in the usual way, in Yam potatoe slips selected for the purpose. The season afterwards became favourable, the slips took, and flourished. They received no other attention than merely pulling out any grass that impeded their growth. On Saturday, the 27th of October, a black frost fell, which destroyed the vines. On the 9th of November, the acre was dug and measured in the presence of Mr. Joseph L. Clarke, my son, John S. Rowand, and myself, and found the product to amount to two hundred and fifty bushels of fine eating potatoes, and fifty bushels of what are denominated seed potatoes; the bushel tub, (city mark,) was heaped up. The remaining part of the field, (thirteen acres,) was planted at the same time in slips, and yielded seven hundred and twenty bushels of eating potatoes, besides seed which was not measured. The efficacy of the benefits to be derived from the application of manure, is here fully illustrated, and confirms the propriety of planting less, and attending well, to ensure a great product from a small quantity of land. There is no doubt, but, that if the vines had been set out in June, the product would have been considerably increased.

With every consideration of respect and good wishes for the prosperity of the Agricultural Society, I remain your faithful servant,

CHARLES E. ROWAND.

February 20th, 1828.

ART. VI.—*On Fences and Inclosing; by* A. JONES.

"Lexington, Georgia, January 18, 1828.

Dear Sir,—Urgent engagements have prevented me from writing to you until the present. My time, since writing to

you last, has been so much engrossed, as to allow me very little time to devote to the interest of your useful publication.

I did intend to have furnished an original communication before now, but a want of time has prevented me. Among the subjects highly important to the interest of farmers, in the old settlements of South-Carolina and Georgia, are those of improving land, and keeping up fences. Some plantations are abandoned, either from an idea that they are worn out irremediably, or that they can no longer be safely inclosed. In this way, we see waste farms and dilapidated houses,—affording, to the view of the traveller, the most sterile and dreary scenes. Those farms are often deserted, when the soil, under judicious cultivation, would continue to yield for years, the greatest abundance. In the old sections of country, it is true, the scarcity of timber makes the keeping up of rail fences, difficult and expensive;—and the time is not far distant, when some other kind of fences *will, of necessity*, have to be constructed. In Oglethorpe county, Georgia, ditching is beginning to be adopted by some farmers, and is likely, I think, to grow into general use. It is found, on calculation, to be fifty per cent. cheaper than any other sort of a fence which can be used.

The mode of constructing ditches here, is to dig them four feet wide at top, three feet deep, and two feet wide at bottom, throwing the dirt upon one side of the ditch. On the ridge of dirt, chesnut posts are inserted at proper distances, and a strait fence made, four or five rails in height. The desideratum appears to be, how to supply this fence when once decayed. It appears to me, that a living hedge planted on the ridge, of some kind, would answer the best. We have no species of hawthorn indigenous to our climate, which answers the purpose, and those which are exotic, do not seem to flourish with us. The Non-descript, or, as it is sometimes called, the Cherokee Rose, has been proposed; but it creeps too much, and seems to need something to support it, before it can form a barrier as a fence. The best plan for forming a hedge, it appears to me, is, to make a furrow on the ridge of dirt thrown from the ditch, in which scatter some manure, and then drill China berries in the furrow. Each berry shoots forth four sprouts, which, in one season, will grow in a favourable soil from three to four feet high. At this height, let them be annually topped, and

the Cherokee Rose planted at their roots, which would twine itself among the China bushes, and form an impregnable fence of indefinite duration. Ditching with us, of the dimensions before mentioned, costs eight dollars per hundred yards. The same distance fenced with rails ten rails high, would take four hundred and thirty rails, or forty-three pannels to a hundred yards, at three dollars per hundred rails, would cost twelve dollars, ninety cents—making the ditch the cheapest fence. Besides, the rail fence would be to renew once in about five or eight years, requiring the use of much valuable timber, which could be appropriated to other purposes.

I am satisfied, that ditch fences have only to be tested, to be generally adopted by our Farmers. Hands could be made to inclose large fields at times when their labour would not be required in other occupations; and once a line of fence is formed by ditches, it would almost be perpetual. If the foregoing hasty remarks will be of any service to you, they are at your disposal. I have the pleasure, dear Sir, to be your obedient servant,

A. JONES.

P. S. We formerly had an Agricultural Society in this County, which has, for some years, ceased to exist;—there will, probably, be attempts again made to revive it. There is an Agricultural Society in Putnam County, located at Eatonton; I believe there is also one in Milledgeville. If you were to publish some of the most approved forms of constituting Agricultural Societies, and annex some directions for their proceedings, and point out objects for their attention, I think it would be productive of good.

ART. VII.—*Remarks on Corn; by* JAMES G. W. DUNCAN.

"Barnwell, November, 1827.

Dear Sir,—The under-mentioned crop was raised on land that had been, the year previous, planted in Cotton, at the distance of four feet, in beds. In every alley I had three furrows made with a half shovel plough, across which, single furrows were run with the same, at equal distances of four feet. The Corn was planted the second week in April, one grain to the hill; owing, however, to a difficulty generally at-

tendant on pond lands planted so early, in getting Corn to tend well. I was obliged to re-plant, after which, there may possibly have been on said five acres, one-third of the quantity left double stalked; the culture as follows:—

Ploughed three times; moulded after the first, and finished after the third, with the addition of wide, but very flat beds made with hand hoes. Neither of the ploughings were more than partial. The sub-soil, owing to its adhesive nature, together with the intensity of the drought, which added much in rendering its glutinous properties more solid, was never disturbed. Whether deeper ploughing would have been more advantageous, or a general mixture of the soils have made the crop more abundant, is left for Agriculturists of less limited experience than mine to determine.

JAMES G. W. DUNCAN.

I do hereby certify, that I was called on by James George W. Duncan, to examine his Pond-Corn; and at the same time, examined particularly, the two acres laid out by Colonel B. Brown, and am satisfied in the conclusion, that I could have selected three other acres adjacent to them, that would have produced as much per acre.

ORASMUS D. ALLEN.

Barnwell, November 10, 1827.

ART. VIII.—*Queries on the Culture of Rice; by* WILLIAM WASHINGTON, *with Answers by* J. H. CLAIBORNE.

(Continued from page 270.)

"Edingsville, July 30, 1827.

Sir,—I have received your letter of the 18th inst. desiring information as to the mode I pursue in the cultivation of Rice. I will reply to your Queries with great pleasure; and, should the Answers prove serviceable in any way, it will afford me much gratification. Your Queries commence thus:—

1st. What preparation do you give your land before you begin to plant?

Ans. I dry the land as much as possible in the usual mode. Plough or turn it up with the hoe, and pulverize as much as I can, as early in the winter as circumstances will permit.

2nd. When do you begin to plant?

Ans. About the middle of March, if the land is in good order; but if otherwise, not until the first of April.

3d. Do you select your seed, and how do you know the best seed? Do you prefer your seed from the North or South, and how often do you change your seed?

Ans. I do select seed; carefully search for the largest, best filled, well ripened grain, as free from red as I can procure it. I care not where the seed comes from if it is good, and provided it has not been produced by land immediately adjoining my own. I would prefer to change my seed every third year.

4th. How many rows to the task or quarter of an acre? How many bushels of seed to the acre?

Ans. I always put seventy-two rows to the quarter. The quantity of seed which I put to the acre, depends on the nature or quality of the land, and the state it may be in; but two bushels are more than sufficient, when it is well broken up and in good order.

5th. Do you scatter in the trenches, or, as it is technically called, string plant?

Ans. I do scatter in the trenches, carefully separating the grains, but never string plant.

6th. Do you point-flow, and if so, assign the reasons?

Ans. In this, I am always guided by the character and state of the land, carefully observing the state of the weather. If light and dry land, I deem it unnecessary.

7th. How many times do you hoe before you put on the water?

Ans. I generally hoe a great part of my crop twice, before I put on the first flow; but this must depend upon circumstances.

8th. How long do you keep on the water?

Ans. This must depend upon the age and size of the plant. If well grown, from eighteen to twenty days or more.

9th. If in grass, would you put on the water or not? What do you call a good crop to the acre or to the hand?

Ans. I never think of flowing when there is any grass. I think three barrels to the acre a good crop; but if the situation and quality of the land is good and well attended to, the average crop, for a series of years, say ten, ought to be three barrels to the acre; and, in that time four years, four barrels and upwards may be made, according to the state of the seasons.

10th. Have you ever ploughed your land whilst the crop was growing, or do you object to it, and why?

Ans. I have never tried the effect of the plough while the Rice was growing.

11th. Do you keep your land dry all the winter, or do you flow it?

Ans. I keep the land as dry as possible all the winter.

12th. Have you ever used salt or brackish water, and what has been the result? Have you ever used lime on your land, and how do you apply it?

Ans. I have never used brackish water. I have applied lime, partially, and am convinced of the advantage. I did not measure the quantity, for it was done on a small scale, intended to correct acidity, not salt, and was strewed in the trench just as the grain was planted.

13th. How do you know the best time to cut Rice, and what is the task of a labourer in harvest?

Ans. By observing the stalk. When the smallest part of the stalk near the ear, turns yellow, the Rice is fit for the hook. A labourer, if a full hand, should reap half an acre of the thickest Rice, per day, and tie up three quarters of an acre, and do it well.

14th. Is there any peculiarity in your preparation of Rice for market?

Ans. None; but I pay great attention to cleaning.

15th. Have you ever cultivated Guinea Corn as a provision crop, and if so, what do you think of it? Do you ever judge by the roots of the health of your Rice?

Ans. I never have cultivated Guinea Corn.

16th. Have you ever practised a succession or rotation of crops, and if so, which do you most approve of?

Ans. I never have practised a regular succession of crops.

17th. Should the river or creek on which your lands are situated turn salt from a great drought, what mode of attendance would you pursue? Would you take in water before it did turn salt, at a time when the Rice was not in actual want, or would you let the water by? Do you ever hoe your Rice, while your fields are filled with water?

Ans. Of course it would be the surest way, to take in water. I never hoe in the water.

I am, Sir, your most obedient servant,

JAMES H. CLAIBORNE.

PART II.

SELECTIONS.

ART. I.—*Corinthian Grape, or Zante Currant; by* S. W. POMEROY.

[FROM THE AMERICAN-FARMER.]

"Brighton, April 4, 1827.

J. S. SKINNER, Esq.—*Dear Sir*,—As the attention of the public seems to be directed to the culture of the *vine*, perhaps you may deem it useful to offer to their notice a species or variety, called the *Grape of Corinth*, that affords the *Corinthian Raisins*, commonly denominated *Zante Currant*, which it is probable may be cultivated in some sections of our country, to as much, or more profit for *raisins*, than any other descriptions of *vines*.

It is well known that the Corinthian Raisin, or Zante Currant, occupies an important station among the ingredients of those pleasant amalgamas, *Plum Puddings, and Minced Pies*, which the partaking of, or abstaining from, at certain *festivals*, were viewed by many of our truly pious ancestors, according to the faith of their *sects*, as *tests* of *orthodoxy*. Happily such *dogmas* are vanishing before the Catholicism of the age. As a number of patriotic Farmers are laudably engaged in breeding improved *short horns*, *Devons* and *Herefords;* our countrymen will soon be enabled to eat as good *roast beef* as *John Bull;* and, as we ought to follow the good examples of our mother country, it is desirable to have *Plum Puddings* in as great perfection also; but this the accomplished *housewife* will tell you is impracticable, unless she can have at command a due portion of *Corinthian Raisins;* and they are also said to be a very necessary ingredient in the composition of that indispensable article, *wedding cake*, which will probably continue to be in *brisk demand*, even should the project for taxing *bachelors* be "indefinitely postponed;" and when it is considered, that all of this species of fruit that is consumed in the world, is, at the present time, the product of a few small

islands in the *Ionian sea*, and almost the entire crop engrossed by *British* and *Italian* agents and factors, a small portion only reaching this country, usually highly seasoned with *gravel*, it is evident, that very little can come in contact with the *palates* of our numerous and rapidly increasing population. It is, therefore, a *desideratum*, that an abundant supply should be produced on our own soil, free from heterogeneous substances. To promote the introduction of the plants, and elicit experiments in the cultivation, I know of no one whose *efficiency* may be more relied on, and to whom his fellow-citizens will look with so much hope and confidence, as to the *Editor* of the *American Farmer*.

It is doubtful, whether a single plant of the true Corinthian vine has ever been cultivated in the United States. About thirty years ago, I was at great pains to procure some from *Naples* and *Leghorn*, but without effect; though I found no difficulty in obtaining choice *Italian* varieties of grapes. I then sent an order to one of the most eminent *nurserymen* in the neighbourhood of London, but with no better success; and I am inclined to believe it was not then cultivated in England, as *Speechly*, who enumerates more than a hundred *marked varieties* of the vine, growing in the hot-houses and vineries belonging to the *Duke of Portland*, which he had collected under the most favourable circumstances, from all parts of the world, makes no mention of it.

The only account of the culture and management of the Corinthian raisin that I have met with, was published at the close of the last century, in a work entitled, a "*A View of the Commeree of Greece, by Felix Beaujour*, late French Consul in that country." The memoir appears very circumstantial, and from which I took copious minutes, merely for my own information; but, as more than twenty-five years have elapsed, I do not recollect that the extracts were *literal*, though I am sure they are correct in substance.

Wheeler, in his travels in the Levant, has mentioned the Corinthian vine—*Vitis Corinthiaca*, or *cipyrena;* a shrub that rises only from four to five feet; consequently, lower than other vines cultivated in France or elsewhere, but is thicker, more woody, and puts forth more roots and a greater number of shoots; its leaves are larger, more obtuse, less indented, of a more delicate green at the top, and paler at the bottom. It is denominated by *Linnæus*, the *small Corinthian grape—uva passu mi nima*, or *passula Corinthiaca*.

The berries are similar to those of the *currant;* they are first green, then of a deep red, and, when ripe, of a dark purple, and not unlike, in appearance, to those of the *elder.* It is sweet to the taste, but when fresh, has an agreeable acidity. As it has fewer seeds, and is more juicy than the common grape; it is admired by the *amateurs* of fruit, who eat it by *bunches,* and *crush* the seeds between their teeth.

The first grapes of Corinth that appeared in the great *marts* of Europe, were brought, at the beginning of the seventeenth century, from the *Gulf* of Corinth, and hence were called *Corinthian* raisins. They were cultivated on all the hills about Corinth, which, from the centre of the isthmus, slope gradually towards the two seas, and on which, out of all the *ancient groves,* there only remained, in 1798, those fine clumps of *cypress,* that sheltered *Diogenes* while he was basking in the finest sun that ever shone, when *Alexander* came to disturb him.

M. Beaujour had not been able to ascertain whether the Corinthian was a variety of the common grape, or constituted a distinct species. One fact he was sure of, that it was not indigenous in the *Morea.* No writer before the 17th century has mentioned it; and, from the researches he had made in Greece and in the Ionian isles, it appeared that the Corinthian grape was introduced into the Morea from Naxia, (ancient *Naxos,*) about the year 1580; although the plant was not to be found in that island of the Archipelago when he resided in Greece. It had also disappeared from the country about Corinth, although it was certainly cultivated there when in possession of the Venetians. At the period he wrote, (1798,) the culture was confined to the territories of the Morea and the Ionian islands; but he was of the opinion it might be introduced with success into other countries of the south of Europe. He says the soil best adapted to this plant, is a dry, light, friable, and flinty; it does not like a moist, close, and heavy earth. The analysis which he made on different soils, in various parts of the Morea, gave from *eight* parts, *five* of flinty earth, *two and a half* of clay, and *one-half* of calcareous earth. The common vines of France, and most other countries, prefer a south-eastern aspect, and hills or slopes; on the contrary, the Corinthian succeeds best on plains, and open to the west. It prefers the vicinity of the sea, and does not succeed on mountains. The Vineyards on the delightful banks of the

Alpheus were in a languishing state, which was attributed to their being surrounded with mountains, that intercepted the marine vapour; and, what rendered the conjecture probable, they succeeded better on the neighbouring plains of the ancient *Elis*.

The management of the Corinthian, does not differ essentially from that of the common vine; some of the processes, however, are rather peculiar, and resemble those pointed out by Columella, two thousand years ago. The ground for a Vineyard is prepared in the fall, and the planting commences in January. The field is laid out in squares of six feet; at the intersection of each, two *cuttings* or *slips*, which are preferred to layers, are deposited in a *trench*, a foot and a half apart, in a sloping position from each other, with two eyes only above the surface. The plants undergo a severe pruning, and show fruit the fourth year, but are not suffered to bear many till the seventh, and do not arrive to full bearing till the twelfth year; and, if well managed, will last more than a hundred years.

M. Beaujour was cultivating a Vineyard at his country retreat at *Pella*, with every prospect of success, and was in hopes in that way, to enrich the country that produced *Alexander;* observing, that if he did not eat all the grapes himself, or convert them into *raisins*, he might at least have the pleasure of seeing them taken away by the descendants of Antiochus and Seleucus, who certainly could have no idea of the *wonderful fortune* of their ancestors, when they came in *tatters* and with *naked* feet, to sport and play in his fields.

No manure was used in the Morea; but in Zante, where the Corinthian Vine is much better cultivated, manure is applied in trenches, as in France. The husks of common grapes, and a mixture of salt and ashes, had been used with great success. In some Vineyards *props* were used; but, generally, the vines were suffered to ramble and support each other.

The crop begins to ripen about the first of August, but the harvest is not completed till about the middle of September. A floor is prepared in the middle, or at the extremities of the Vineyard, similar to the ancient *threshing* floor, but in a sloping direction, to permit the water that may fall to run off, and is formed with strong *loam*, rammed hard, and covered with a *mastic*, consisting of bullock's

blood and other substances, which makes a firm *varnish*, and prevents any of the earth from mixing with the fruit, which is gathered by women and children, brought to the floor in baskets, and laid on, bunch by bunch over it, and turned every day. In fine weather, the *raisins* are cured in eight or ten days; but, in a wet season, are sometimes out twenty or thirty days; and when the rains are heavy and of long duration, the gathering is much lessened in value, if not lost. When the fruit is sufficiently dry, it is separated from the stalks by small rakes; and being cleared from all extraneous substances, conveyed to the magazine, the construction of which, is not unlike a modern *lime-kiln*, having an opening at the top, into which the fruit is put, and a door at the bottom, opened only at the time of sale. The fruit being poured in above, is occasionally rammed down, and, with the pressure by its own weight, a *viscous* liquor is emitted, that unites the whole mass so closely, that iron bars are used to break it up to pack it in casks, and is then trod down firm, in order to exclude the air.

The medium quantity of Corinthian raisins annually produced in the Morea, viz: the districts of Patras, (that port being the chief *mart* for exportation,) the coasts of Achaia and Ætolia, with a few other districts, including Missolongi, was estimated about thirty years since, at *ten millions* of pounds weight, and the sales at *eight millions; five* parts of which went to Great Britain, and the other *three* principally to Holland and the north of Europe; and were sold at a little more than *three pence sterling* per lb. on board, free of all expenses and duties, which were enormous, and often double the amount of the first purchase; consequently, did not leave but about a penny to the poor Greek cultivator, out of which he had to satisfy a rapacious landlord. We may infer, however, that a small extent of Vineyard which must have been productive of large quantities of fruit, otherwise the cultivation could not have continued. The quantity of Corinthian raisins exported from the Ionian islands at the period alluded to, is not known, but probably much exceeded that from the Morea.

M. Beaujour remarks, that Corinthian raisins were not only an article of *luxury* in Great Britain, but of *economy*, as he had been assured that they had been made use of in the distillation of *factitious brandy*, and for cleansing manuactures of *wool* and *silk*.

The terrible devastations with which a *merciless* foe has, of late years, afflicted the Morea, have, probably, extended to the *Corinthian Vineyards;* it may be possible, however, that a few remain in those districts still in possession of the Greeks, in which case, a favourable opportunity now occurs for obtaining *plants*, by the ships that are taking out supplies for that distressed people. But, if they cannot be procured from thence, I apprehend no difficulty in obtaining them from the Ionian islands, especially through the medium of the officers of the navy of the United States, who have shed additional lustre on their characters, by an ardent zeal to benefit their country, uniformly manifested in their exertions to introduce *rare* vegetable and animal productions from foreign climes.

Owing to the length of passage from Greece, and the limited season proper for *cuttings* or taking up *plants*, no dependence can be placed on them, unless they are prepared to come in a *growing state;* and that method is not attended with the difficulty and risk generally supposed. I have had the *Olive*, the *Fig*, and *Vine* so brought from Leghorn, that arrived, in flourishing condition, on board a vessel not exceeding one hundred and fifty tons. *Layers* of the vine may be taken up at any season without injury, if they are planted directly in such soil as they were taken from. The process is perfectly simple, and there always can be found among the crew of an American ship, sailors who are able to perform all the needful operations. Take a provision or flour barrel, and fill in about twelve or fourteen inches of *soil;* in this, plant as many vines as it will hold, without crowding too much, and let the earth be well settled about their roots by shaking and watering; saw out two staves an inch above the surface of the earth, on each side of the barrel, extending to the chine hoops, to admit of a free circulation of air; a netting should cover these apertures and the head, to protect the plants. If holes are bored on each side of the bulge, to admit ropes to serve as handles, it will add to the convenience of removal. The plants should be kept, when *below*, in the most airy part of the ship, and exposed to as much light as possible, and brought on to the quarter-deck every day, when the weather will permit, or when their is no danger of their being *touched* by the *spray*, or the *foam* of the sea that may be wafted on board by the wind. The plants should be wa-

tered very sparingly, and never exposed to the direct rays of a hot sun. The want of such precautions has caused much disappointment; but, if the foregoing directions are strictly followed, many delicate and valuable exotics may be introduced from distant regions.

There is one fact that should be strongly impressed on the minds of our rulers, and all who are solicitous to ameliorate the condition of their fellow-citizens by introducing productions of the vegetable kingdom from other quarters of the globe, with the view of their becoming valuable staples, or innocent luxuries. We are informed by the classical historian, Gibbon, that "the *Olive*, in the western part of the old world, was the companion, as well as the symbol of peace. To centuries after the foundation of Rome, both Italy and Africa were strangers to that useful plant; it was naturalized in those countries, and at length carried into the heart of Spain and Gaul. The timid errors of the ancients, that it required a certain degree of heat, and could only flourish in the neighbourhood of the sea, were insensibly exploded by industry and experience."

When inquiring after the most suitable *localities* for the successful cultivation of the Corinthian Vine, we first turn to *Florida;* and, from the brief information of the climate, soil, and productions, obtained from a very able address by Colonel James Gadsden, delivered before the "Florida Institute of Agriculture, Science, and Antiquities," at their first anniversary in January last, which I have just had the pleasure to peruse,—I feel persuaded, that there can be no reasonable doubt but the Corinthian raisin will afford a very important and profitable staple to that country. *Spring frosts* are the worst enemy this vine has to contend with. It has often suffered by them in the Morea, and will, probably, be the greatest obstacle to its culture in this country, in situations not protected by the sea air, extending as far north, perhaps, as latitude 39. But this danger may be easily guarded against by a simple covering of mats or straw, for a few nights. On the whole, I think we may assume the position, that, on a congenial soil, in any section of our country, where the *Fig* or *Muscat Grape of Frontignac* will ripen, there is strong encouragement to attempt the cultivation of the Corinthian Raisin. I remain, dear Sir, very cordially your's,

S. W. POMEROY.

Note. Some of these vines were sent on to this country to a gentleman in the vicinity of Boston, by Sir Joseph Banks, and one of the plants was given by this gentleman to a Mr. Hewson, nursery-man, who lives in Roxbury, and from whom vines can, in all probability, be obtained at this time. Mr. Prince, of Long-Island, New-York, has them also. It will be recollected by our readers, that this is one of the articles recommended by a "City Rustic," in our first number; and there can be no doubt, but that it would succeed with us, and might be cultivated to great advantage. It is not a shrub, as stated above, but grows like all other vines, sending out shoots several feet in length, and prefers the vicinity of the sea-coast, and thrives better on the plains than on the mountains.—*Ed. So. Agriculturist.*

ART. II.—*On the Use of Salt as a Manure; by* C. W JOHNSON, *(England.)*

[FROM THE GARDENER'S MAGAZINE.]

"Great Witham, March 17, 1827.

"Inclosed, is a copy of a tract, upon the uses of Salt in agriculture, of which I beg your acceptance. My brother has arranged it for general circulation among Agriculturists; but, containing many new facts, it may, in some measure, be considered as an appendix to his essay on the same subject. Two very large impressions have been disposed of. I will take this opportunity to observe, if you will allow me two or three pages of your Magazine, upon some of the difficulties of the question; premising, that we have no interest in enforcing Salt upon the attention of the various cultivators of the soil, further than that which would actuate every man, in a cause which he may consider is for the benefit of his country. The conviction of its utility, which prompts us to advocate the employment of Salt as a manure, is the result of some years' experience, and is not founded upon a few experiments, limited in extent and locally confined, but on trials upon acres as well as yards of surface—by practical men with the bushel, and by men of science with the balance. In my brother's essay are detailed the

experiments of fifty-five persons, including men of rank, plain agriculturists, and scientific experimenters; thirteen of our counties have been the arenas of the experiments. But the use of Salt as a manure, is not confined to England; it extends from the Rice growers of Hindostan, to the Flax cultivators of America; it has been applied with advantage to the fields of France, as well as to those of Nubia. Leaving out of the question all testimony from the Scriptures, and of writers but little inferior to them in date, there is not a publication in this country, upon the general cultivation of the soil, from Lord Bacon, in 1626, to the present day, which does not advocate Salt as an assistant to vegetation in some form.

"I do not hesitate, Sir, to state as my conviction, that there is no plant which is fostered either by the gardener or the farmer, that cannot be benefited by a judicious application of Salt; this is an axiom, which Time, the test of all truth, will, I believe, firmly establish.

"It is a misfortune incident to all projects, that patience, and a desire prompting to the determination of illustrating truth, are mental gifts, not quite so "plentiful as blackberries." Prejudice and self-sufficiency, the offspring of ignorance and contracted mental powers, unfortunately are abundant.

"Facts are upon record, which demonstrate that a given crop on a given soil, is benefited by the application of Salt some months before sowing. This is generally the case; whilst other crops, on the same soil, are most benefited by having it applied at the seed-time. Some crops and soils show most superiority with twenty bushels per acre; others are most productive with five bushels.

"Crops, cultivated for seed, seldom or never show any superior luxuriance after the first stages of growth; if they do even then, the increase is in the bulk and weight of the seed.

"These peculiarities are the foundation of the opposition to the employment of Salt as a fertilizer. How few farmers will take the trouble to ascertain these points! How few will follow an experiment to the measure which does not promise anything to the eye! How few will vary the time and quantity of the application! I do not hesitate to say, that all the successful experiments which are recorded, as made by strictly practical man, are entirely the results of

chance; chance determined both the time of applying the Salt, and the quantity used. Had any other season or quantity been casually adopted, the result might have been unfavourable, and the experimenters ranged themselves with the opponents of Salt. Another class of the opponents of Salt manure, are those who have witnessed the devastating effects of an excess of Salt; they cannot imagine a small quantity can benefit, when a large one destroys. Your correspondent "Agronome," appears to be an opponent of Salt from all the above causes. He evidently never has tried an experiment with Salt; he was, "twenty years ago", self-sufficient; his letter teems with something a little like a spirit of prejudice, and he holds up some ash trees "whose sap was completely converted into brine," by applying Salt abundantly to their mangled bark and roots, as a warning extremely notable. His detail of the application of Salt to the fallow-field, is decidedly favourable to its employment. There is one absurd misrepresentation in his letter, which may require correction; he observes, "Mr. Johnson says, that weeds grow more luxuriantly on walks after having been killed by Salt." This is a moderate specimen of false quotation; my words are, "Those who apply Salt for this purpose, (the destruction of weeds on gravel-walks,) must repeat the application at least every other year; if the Salt is not in excess, it promotes the growth of the weeds;" —not those which have been destroyed, but others which will succeed them. In his remarks upon applying Salt to pinks and carnations, he should have kept in mind, that it is the practice of Mr. Hogg, of Paddington, and not my own unadvised recommendation.

In conclusion, let me observe, that we ought to rejoice to observe the gradual suffusion of education, and the mole-hills of prejudice, and the multitude of the self-sufficient, diminishing in the same ratio. Our gardens are no longer under the direction of men who retain their profession as unaltered as the New Zeland savages do the religion of their forefathers; with as much bigotry, and as unenlightened. Our gardeners are now men of science, and friends of improvement; the present state of our horticulture affords us overwhelming testimony of the benefits gained by this revolution;—and the time must come, when the sons of our agriculturists have science mingled with their education, with at least as much justice as their daughters are instructed

in music, dancing, and languages. When that day comes, and come it must, every proffered improvement will receive its due share of examination. Such a general diffusion of science among the cultivators of the soil, every friend of his country should endeavour to promote; for it will not be until then, that Agriculture can acquire the power of becoming that which it professes to be—the art of obtaining the best crops of certain plants at the least possible expense.

I am, Sir, &c.

C. W. JOHNSON."

Extracts from the Pamphlet.

"HORTICULTURE.—In the garden, much good may be effected by a judicious employment of common Salt. I am indebted to my brother, Mr. George Johnson, for several important experiments with Salt, in the kitchen garden; they were made with much care, and I can vouch for their correctness.

"The soil was sandy; and I abridge from this paper, read before the Horticultural Society of London, in November, 1821, the following detail of the result:—

"*Windsor Beans.*

Experiment.	Produce in Bushels per acre.
1. Soil without any manure, - - -	185½
2. Soil dressed with 20 bushels of Salt per acre, week before seed time, - - -	217

"*Onions.*

	Tendered tons	cwt.	qrs.	lbs.
1. Soil manured with 20 bushels of Salt, and 10 tons of farm-yard manure, -	3	12	3	12
2. Soil manured with 12 tons of farm-yard manure, - - - -	2	10	2	19

"*Carrots.*

	Produce per acre. tons	cwts.	qrs.	lbs.
1 Soil manured with 80 bushels of Salt, and 20 tons of manure, - - -	23	6	1	18
2. Soil, 20 tons manure only, - -	22	18	0	26
3. Soil manured with 20 bushels of Salt only,	18	2	0	0
4. Soil without any manure, - -	13	4	0	0

"*Parsnips.*

Experiment.	Produce per acre. bushels. tons. cwt.
1. Yard-manure, 20 tons—salt, 20 bushels,	6 15
2. Yard-manure, 20 tons, - -	6 11

"*Early Potatoes*

1. Soil without any manure, - -	308
2. Soil manured with 20 bushels of Salt per acre, - - - - -	584

"*Conclusion.*—From the statements which I have now been enabled, through the kindness of my friends, to lay before the farmer, he must agree, that the use of Salt in agriculture, is of the highest importance; he must acknowledge this, unless, indeed, he believes, that all those who have tried Salt as a manure, were alike deceived.

"That Salt is alike beneficial to all kinds of land, and at all times, is an assertion too absurd to need refutation, for such an universal property belongs to no other manure; even chalk or lime will not suit all soils. Stable manure may be employed without benefit.

"When chalk is applied to some soils, years must elapse before its good effects are visible to the farmer. 'And yet,' said the late eloquent Lord Erskine, 'chalk, which has caused to start into life the most inert soils, is just nothing as a manure, compared with Salt.'

"Now, let me ask, what would have been the fate of chalk as a manure, had its early advocates decided upon its merits, without first employing that patient spirit of investigation, so especially necessary in all agricultural pursuits?

"Would chalk, or gypsum, or lime, or bone-dust, ever have been generally employed as a manure, had their advocates been infected with a spirit of impatience, and proud contempt of the experiments and rules of those who went before them? Chalk and gypsum had their opponents; they, too, had to encounter ignorance in all shapes; but they triumphed at last, and so will the advocates of Salt."

Art. III.—*Myrica.*—*Candle-Berry Myrtle.*

[FROM THE DOMESTIC ENCYCLOPEDIA.]

This is a genus of plants comprehending the following native species:—

1. *M. Cerifera.* This grows upon boggy lands, in the Southern States, rising with many strong shrubby stalks, to the height of six or eight feet;—the leaves are stiff and spear shaped, of a yellowish lucid green on their upper surface, but paler underneath; of a grateful odour when bruised. The catkins come out on different plants from the berries, and are about an inch long, and erect. The female flowers come out on the sides of the branches in long bunches, and are succeeded by small roundish berries covered with a mealy substance, and afford a green wax by boiling.

2. *M. Cerifera humilis,* dwarf Candle-Berry Myrtle; a variety of the former; bark, gray—leaves, shorter and broader, and more serrated.

3. *M. Gale,* bog-gale; also grows in swamps, to the height of two or three feet; leaves, lace-shaped, smooth, and a little sawed towards the points. The berries are dry, compressed at the apex, and three lobed. This species grows in New Jersey, but abounds in the Eastern States, and in Nova Scotia, according to Mr. Bartram.

The wax is obtained in South-Carolina and Georgia, by boiling the berries of the *M. Cerifera* in water, and skimming it. Mixed with tallow, it forms excellent candles; a soap may be also made from it. The following receipt for the purpose, by Judge Bee, is inserted in a little pamphlet, published in the year 1788, by the Agricultural Society of Charleston, South-Carolina. To three bushels and a half of common wood ashes, was added half a bushel of unslacked lime;—these being well mixed, were put into a sixty gallon cask, which was filled with water. In forty-eight hours the ley was strong enough to bear an egg;—it was then drawn off, and from six to eight gallons of it put into a copper kettle, capable of containing about twenty-five gallons;—four pounds of myrtle wax were added, and the kettle kept boiling over a constant steady fire, from nine o'clock in the morning, till three in the afternoon. For the first three or four hours, a supply of strong ley was

added from time to time, until the liquor appeared like soft soap;—then weaker ley was poured in occasionally, and the whole frequently well stirred. After six hours boiling, two quarts of common coarse salt were thrown into the kettle, which was left one hour more to simmer over a slow fire. The liquor was then put into two large tubs to cool, where it continued twenty-four hours; and then the soap was taken out, wiped clean, and put to dry. The next day it was weighed, and the produce was forty pounds, and two ounces of solid soap. The loss of weight by drying is not mentioned; but Mr. Bee was informed by one who made the trial, that at the end of six weeks it was very trifling.

From Dr. Bostock's experiments on myrtle wax, it appears, that, when boiled with liquid caustic pot-ash, the fluid becomes tubid; but, after some time, the greatest part of the wax rises to the surface, nearly without colour, in a floculent form. A small quantity of it only remains dissolved in the pot-ash, and this may be precipitated from it by an acid. That part of the wax which rises to the surface, is converted into a saponaceous matter; it has lost its inflammability and fusibility, and forms an opaque solution with water. From this solution, it is precipitated by an acid, in the form of white flakes, which, when collected, resemble very nearly the wax, before its union with the pot-ash. In the Medical Repository of New-York, it is stated, that Dr. Joseph Browne of that city, had discovered a cheap and easy process for bleaching myrtle wax, but it has not yet been published. No doubt, however, the colouring matter may be destroyed by the process for bleaching common bees-wax; or by the vapour of alkalis, which, according to Chaptal, destroys the green colour of all vegetable matter.

Art. IV.—*On the Culture of the Cochineal.*

[FROM THE PHILADEPHIA PRICE CURRENT.]

The *Coccus Casti*, in Zoology, is partial to the unparalleled even temperature of Central America, and its vicinity. It is the famous Cochineal animal held in such high estimation in the commercial world. This insect is of both sexes, but not very similar in appearance; the female is ill shaped

and slow motioned—the male is very scarce, and one is sufficient for four hundred females.

The Nopal, or Cochineal plant, is of that species known in the West Indies as the Prickly Pear; it is oval, and varies in size according to growth, from six to twelve inches across. It is found in the wild state in many parts, but that kind particularly abounds in the vicinity of Zacapas,* and on the plains, so called;—you see it thirty or forty feet high—and, what is most singular, the trunk, in process of time, becomes a hard wood, from whence, following the branches out, the woody or hard quality gradually lessens, and, within four or five feet of the extremity, the plant again assumes its natural appearance and attributes, of the consistence of a cabbage stock, producing, at certain seasons, a well flavoured red fruit, much sought after by the natives, as also by the parrot species of birds. The prickles on this tree are very long, tough, and sharp; the absence of the prickle from that species which produces the Cochineal, is the great distinction.

In Central America, the cultivation of the plant for producing the Cochineal, is almost confined to New and Old Guatamala, and that charming valley comprised between these earthly paradises. The range of the thermometer during ten months of the year, scarcely varies from 68° to 74° of Fahrenheit—in November and December it sometimes falls to 50°, and that seldom. The Government, aware of the importance of this new and important branch of their commerce, allows its importation free of duty, in order to compete with Oaxaca, in Mexico, which, for some time back, has supplied Europe with immense quantities. I am informed, by good authority, that the plant was first introduced into Guatamala, afterwards cultivated in Mexico, and, owing to some regulations under the old Government, discontinued in the former, until within the last four or five years, when general attention has been turned to that ready-money article.

The following data are given, in order to form an idea of the funds necessary to commence a plantation;—one of

* Zacapa, a large flourishing town in the Department of Chiquimula, famous for the number of its fine mules, contains about five thousand inhabitants, the major part Indians, situated on a sandy elevated bluff, whose base is washed by the majestic Montagua, ten leagues from Gualan on the high road, and forty-two from Guatamala, the capitol.

about ten thousand plants is considered a snug manageable concern—however, the extent must, of course, depend upon the will and ability of the undertaker, and the time he may be willing to dedicate to it.

Estimate first Year.

A thousand plants will cost from thirty to fifty dollars, and will require, when ready to innoculate, say at the expiration of eighteen or twenty months, twenty-five pounds of seed, or the living animal, averaging from one dollar and fifty cents, to three dollars per pound;—ten thousand cartouches will cost thirty-seven and a half cents per thousand; one mercate, or twenty fathoms, say a hundred and twenty feet superficial or land measure of ground, will be required for the above number of plants, which can be had in that proportion at one dollar per year; (indeed the richest land, as it respects value, is merely nominal;)—to fence this in, which is indispensably necessary, as cattle of every description are excessively fond of the plant, and ever prone to trespass. The mud fence will cost twenty-five cents the square, of five feet long, two feet broad, and one a half feet thick, which is tiled on the top to guard against the rain. The other mode of fencing, is, by planting suckers of a tree something like our ash, which, in time, has a beautiful appearance, but, at first, present a feeble resistance to the hungry marauder. The ground is turned over with a hoe; the common wages is twenty-five cents per day for labourers; six men can weed and clean a thousand feet in two days, which will be necessary four times a-year;—six women are required two days to apply the cartouches, (or innoculate a thousand plants.) Twenty-five pounds of seed is expected to produce two hundred and fifty pounds of Cochineal, or gives ten pound for one.

Planting.

The ground being prepared with a hoe as before stated, about from March to May, the Nopal is planted, and they are very particular in the regularity and straightness of their lines, which has a beautiful effect. The rainy season commences about the 20th of May, and ceases generally the 15th of October;—in November, the animal is applied to the plant in the following manner:—A bamboo about the thickness of a common flute is cut off at the joints—it is

then cut in two, leaving a bottom to each section. About a large tea-spoon-full of the animal is put into the cartouch, and by means of a hard black thorn, something like that used by tobacconists, is stuck on to the plant—in a short time the seed is dispersed all over the plant, similar to specks of flour shaken sparingly out of a dredging box; it sheds its coat three times before coming to maturity, assuming then a black appearance—that is, the appearance is black, when the coat is shed; but grey, when at maturity. This plan is generally adopted; however, some apply the seed in small fragments of gauze, cloth, linen, &c., but the first is found the best. That applied in November requires eight and a half months to come to maturity, it being the coldest time of the year, the thermometer being the lowest, as above stated; that sown in February requires about two months. The animal, when full grown, is scraped off with a chip or feather. Two crops are generally attempted—the latter, however, has been found very precarious, as an early rain in May, will blast the hopes of the cultivator.

It cannot be supposed, that each plant gives the animal full grown,—hence arises the following distinction:—

Grana, the full grown and first quality of Cochineal.

Granilla, the Cochineal not full grown when collected, or second quality.

Cascarilla, the Cochineal that is self dried, and that dies in the cartouch from injury in handling; this the natives call the *madre*, or mother of the Cochineal.

When the animal is separated from the plant, there are three modes adopted to prepare it for market; the manner depends much upon the pressing exigency of the owner;—in that case, the first method is adopted.

1st. By killing and drying it in an oven; this gives it the black appearance.

2nd. By immersion in boiling hot water, and afterwards drying it in the sun.

3d. By exposing the animal upon plates of tin in the sun. This process requires from fifteen to twenty days, and gives that beautiful silver grey. The Cascarilla is generally very black and uneven; the Granilla less black, smaller, and more even.

Preparation for Exportation.

The Cochineal is, or ought to be, sifted and cleansed of all its impurities. One hundred and fifty pounds are usu-

ally put into a cotton sack, then enveloped in a mat, and covered with a hide. The land carriage, with a drove of mules, is two dollars and fifty cents per ceroon to Gualan, fifty leagues from Guatamala, and from thence to Omoa, four dollars, by the river Motagna, a distance of a hundred and sixty miles to its mouth, and from the bar to Omoa nine leagues. A thousand bales was the quantity exported last year, the greater part of which found its way to Cadiz, via Havana, in neutral bottoms. The expense of embaling is two dollars and seventy-five cents per bole.

The foregoing estimate of productiveness is not often realised, and is subject to many casualties;—for instance, a heavy rain, which sometimes happens in the dry season, and generally accompanied with large hail, leaves the plant clean; not a solitary inhabitant escapes, as they wash off easily, being exposed not under cover. But the most insiduous and active enemy is the worm;—that fell-destroying animal is known to have cleared a whole plant in twenty-four hours; to distinguish this marauder, requires a practised, acute eye. The cobweb is also injurious; but what contributes to lessen the profits essentially, is the thievish propensity of the Indians, who do all the labour in that quarter of the continent; however, strict attention will insure a proprietor a lucrative return.

The seed is prepared during the wet season; the single Nopal is cut off close to the stem, and is about the size of a man's wrist; a hole is cut in it, and suspended innoculated, and the animal is in a productive state all the time, the temperature being the same. Another plan is adopted. A crib is made of bamboo, and apartments made on the shelves, large enough to admit the plant separate; being under cover of the corredor, the animal keeps breeding; and is protected from the rain.

It will appear to people of limited capital, that they cannot employ their funds better; and, to men of capital, where can a better return be realised? The great advantage is, a mechanic can follow his avocations—the merchant can attend to his speculations—and, have this animal working for him the year round. The great source of riches is open to our own citizens, who rank the first in the estimation of the Central Republicans, and who invite us with open arms to assist in developing the resources of that charming country.

Note. We recollect about eighteen or twenty years ago, to have seen a species of Cochineal which fed on the Prickly Pear. At that time they were not uncommon at Haddrel's Point, (the place where we saw them;) and we have often found them on the various plants, which, at that time, were there in considerable abundance. They appeared to be of that kind which are mentioned as enveloping themselves in a web; and many a time have we seen them washed, in order to observe the fine colour which they afforded. From this it would appear, that it will not be very difficult to introduce them into the Southern States. The Prickly Pear is indigenous, and the insects might be introduced from Mexico, should those which we have here not be found to answer. We do not recollect ever to have seen them at any other place than Haddrel's Point, and they have long since disappeared from that spot. Perhaps, however, they may be still found in less frequented spots,—on some of our Sea-Islands, for instance.—*Ed. So. Agriculturist.*

ART. V.—*On the Culture of Red Clover; by* JOHN E. COLHOUN.

"Pendleton, (S. C.) May 8, 1828.

MR. SKINNER.—*Sir*,—Allow me to state an agricultural fact which appears to me singular. About ten years since, I obtained some Red Clover and Timothy Seed from the north, which were sowed by way of experiment, on a piece of upland, part of which had been an old vegetable garden.

It grew very well, and remained three years, when it was ploughed up, and the ground put in sweet potatoes—since when, it has been in constant and close cultivation, (with the exception of last year:) three or four years successively, in cotton, and one year in corn, cultivated in a particular manner, with the view of making the greatest product.

In February last it was sown in oats, and the part which was the old garden, (about an acre,) is now covered with a luxuriant crop of Red Clover, about knee high, and in bloom.

Is it peculiar to the Red Clover seed to remain such a length of time in the ground without losing its germinating quality? or how has this growth been re-produced?

Very respectfully your's,

JOHN E. COLHOUN.

PART III.

MISCELLANEOUS AGRICULTURAL ITEMS.

DOMESTIC.

New Species of Pinus.—Mr. Douglas writes: "I rejoice to tell you of a new species of Pinus, the most princely of the genus, and probably the finest specimen of American vegetation. It attains the enormous size of from 170 to 220 feet in height, and from 20 to 50 in circumference. The cones are from 12 to 18 inches long! I have one which is 16½ inches in length, and which measures 10 inches round the thickest part. The trunk is remarkably straight, and destitute of branches till within a short space of the top, which forms a perfect umbel. The wood is of fine quality, and yields a large portion of resin. Growing trees of this species, that have been partly burned by the natives, to save the trouble of cutting other fuel, (a custom to which they are greatly addicted,) produce a substance, which, I am almost afraid to say, is sugar; but as some of it, with the cones, will soon reach England, its real nature can be easily and correctly ascertained. The tree grows abundantly 2° south of Columbia, in the country inhabited by the Umptqun tribe of Indians. The seeds are gathered by the natives in autumn, pounded and baked into a sort of cake, which is considered a luxury. The saccharine substance is used in seasoning dishes, in the same manner as sugar is in civilized countries. I shall bring home such an assemblage of specimens of this *Pinus*, as will admit of a very correct figure being made, and also a bag of its seeds."—*Brewster's Journal*, No. 11. p. 114.

Horticulture in and about New-York.—In company with a friend, I spent the greater part of the summer of 1826, in the vicinity of New-York; and I take the liberty of sending you a few remarks on the present state of Horticulture, in and about that city; with the hope, that they may serve to amuse, if not instruct, the readers of your valuable Magazine. From its locality, its resources, and the proverbially enterprising character of its inhabitants, the state of New-York seems destined to take the lead in America, in this delightful science, as it already does in agriculture and commerce.

Shortly after our arrival in the city, we attended a meeting of the Horticultural Society there; and had the honour to be intro-

duced to Dr. Hossack, the President; a name not unknown in the records of botanical writers. The business of this Society is conducted much on the same principles as they are in this country, and their by-laws and regulations, seem to have been founded on those of the Linnean Society of London. In addition to the usual officers, they have a Lecturer on Botany and Vegetable Physiology, the celebrated Dr. Mitchill, no less known for his acquirements in the arts and sciences, than for the simplicity and urbanity of his manners. I will here remark, that a professorship of this nature, where the young gardener might receive lectures on botany, would, in my opinion, be of great utility in this country. I leave the hint with you, well knowing, that, if you concur in my idea of the subject, you will improve it. It was pleasing to me to observe, that, though the Society contained among its members, men eminent for their rank and talents, as well as practical gardeners, there was the greatest unanimity; and though one member, on leaving the meeting, would retire to discuss laws, and the rights of nations, in the Senate,—and another, to his more humble avocations in the garden, there was none of that distant and reserved air, which is so much in fashion among our great men, when meeting with those whom they have been taught to consider their inferiors. By this cordial junction of wealth, rank, and practical skill, much has been done for the science of gardening, and more may be justly expected.

In and about the city are several public parks and gardens, most of which are yet in a state of infancy; but they appear to have been selected judiciously, and with some regard to the health and convenience of the majority of the inhabitants.

Saint John's Park, in the western section of the city, is of considerable extent, and has lately been thrown open to the inhabitants; it is tastefully and very judiciously planted with the ornamental trees and shrubs indigenous to the country.

Of market-gardens there are abundance, and the markets were amply stocked with the choicest fruits and vegetables; of peaches, in particular, there was a great plenty, and fine fruit were selling in the market at 75 cents, (about 3s. English,) the peck. It was a novelty to us, to see in the market-gardens and in the pleasure-grounds of gentlemen, *Standard* Peach Trees bending under the weight of this delicious fruit; and, with the exception of the gardens of Charles Hall, Esq., and the market-grounds of Mr. Shaw, we did not notice any walls appropriated to the ripening of this fruit. In the markets, and at the exhibitions of the Horticultural Society, we saw some peaches of an extraordinary size, in particulary, one called Hoyte's Lemon Clingstone and the Morrisina Pound Peach; a single fruit of the latter weighed 14½ oz. We should not, ourselves, perhaps, have given credence to this statement merely on hearsay evidence, but we *saw* the fruit weighed, and —— but the old proverb is somewhat musty. A new

apple, a seedling from the celebrated Newtown Pippin, is spoken very highly of; it is called Ortley, in honour, as I am informed, of one of the American Generals in their struggle for independence. I believe trees of these fruits are to be found in our Society's garden; and the public will probably be enabled to obtain them from some one or other among the favoured nursery-men.

We paid a visit to the *Linnean Garden* at Flushing, which contains a numerous and extensive collection of hardy fruits, a very fine assortment of herbaceous plants, and a choice selection of Botany Bay and New Holland plants.

At the *New-York Nursery*, under the superiniendence of Mr. Floy, there is a good collection of green-house plants, and the greatest variety of American trees and shrubs I recollect to have seen at any one establishment.

The Nursery of Mr. Hogg, at Bloomingdale, and that of Mr. Wilson, at Greenwich, are newly established, but fast rising to eminence; the former, for its fine collection of beautifully grown exotics—and the latter, for its extensive varieties of fruit-trees. Too much praise cannot be given to the curators of the Linnean Garden, for the neatness and regularity which are manifested at their establishment.

The number of private gardens in and about the city is large, but they are not, in general, carried to that extent which so justly distinguishes those of our own country; nor can it be expected. The United States is, emphatically, a new world,—her political existence scarcely exceeding half a century; and I question if any other nation has, in the same period of time, made as much progress in this delightful science.

Since my return, I have been repeatedly asked, by gardeners and others, my opinion as to emigrating and settling in this new world. Giving advice, I know from experience, is a thankless task; but the few following remarks may be useful to those who are determined on leaving their native land. Gold is not scattered about the streets in America, as is imagined by some, nor is that country a barren wilderness, as is imagined by others. The industrious man will find plenty of employment, and get better paid for it than in this country; but a fortune is not to be acquired there any more than here, without industry and perseverance. Clothing is dearer, but provisions of all kinds are much cheaper. The climate of the middle States is very similar to our own. In New-York, the winters are more severe, but the summers are much warmer. The Government is pure and economical; taxation is but small; and the rights of the poor man and the rich, are equally respected.

In conclusion, I will observe, that I visited America with feelings somewhat prejudiced, and have returned with all my prejudices removed, and am, as an Englishman, proud to think, that this people, who are fast treading upon our heels in every useful

art and science, are descended, in a great measure, from the same ancestors as ourselves.—*Gar. Magazine.*

—

Silk.—Mr. W. H. Benton, in a letter to the Editor of the "American Farmer," says;—I have taken the liberty to enclose a specimen of the Silk of this country, as it is found in the forest. The size of the cocoons struck me as being remarkable, though, from what I can learn, not uncommon in this country. When brought to me, it was about the size of a hen's egg, and differed from all others that I have seen, by having a husk on the outside, in all respect similar to that which immediately enclosed the worm. Between the two husks the silk was extremely loose. It was brought to me by a negro, who said it was found upon a black mulberry. The cocoons are found sometimes upon the linn, and sometimes upon the cane. Upon the latter, they are generally small; but, upon the linn, they are mostly larger than upon the mulberry.

This part of the country abounds with the mulberry; mostly black and red, though there are many of the white. Probably four-fifths of the forest mulberry are barren, but, from the shape of the leaf, are supposed to be of the black species.

I am anxious to obtain some information upon the culture of silk, as applicable to this country. It would give me pleasure, therefore, to hear from you upon the subject.—(The above alludes to the State of Mississippi.)

FOREIGN.

The Cow Cabbage, Brassica, olerácea var. arboréscens.—I enclose a few seeds of an arborescent cabbage, introduced from La Vendée, by the celebrated Compte de Puysaye, which promises to be an important acquisition to agriculture. I have seen it growing in the garden of my friend Admiral Brooting here, to the height of eight feet. In La Vendée, I am told, it attains an altitude of from twelve to sixteen, or even more feet. Being a native of a warmer climate, it should be planted in a warm and sheltered situation; sixty plants are said to afford sufficient provender for one cow, for a year; and, as the side shoots only are to be used, it lasts four years without fresh planting. A square of sixty feet will contain two hundred and fifty-six plants, four feet apart, or sixteen more than four cows require for a year's provender, without the aid of other food. I shall be glad to hear the report of its success from those to whom you may communicate the seed.—*Gar. Magazine.*

—

A Marriage Tree, generally of the pine kind, is planted in the church yard by every new married couple in the parish of

Varallo Pombio, in the Tyrol; a fine grove of pines is said to shade this church-yard, and it must be recollected that the pine of the Tyrol claims to be ranked as a fruit-tree, as well as a valuable timber, being the Pinus pinea, the kernels of the cones of which are frequently served up in the dessert in Italy, and the Southern Alps, as almonds and nuts are in England.—*Gar. Mag.*

—

Turnip Cabbage.—It is surprising that this valuable vegetable, (the *Kohl-Rabi* of the Germans, *Chou-Rave* of the French,) of which large quantities are regularly sold the whole summer in the German markets, is not more cultivated in England, as it is little inferior to cauliflower; and yet, from its requiring less air and room, can be grown at a price so much lower, that a given weight of cauliflower, in the market of Aix-la-Chapelle, costs five or six times as much as the same weight of kohl-rabi. The mode of cooking, however, makes all the difference. Half-boiled, in the English way, it would be little thought of; but, when cut, as in Germany, into small oblong pieces, and thoroughly and slowly boiled, or rather stewed, it forms an excellent dish. The average diameter of the *bulb*, (applying this term for want of one more appropriate, to the globular enlargement into which this variety of the cabbage tribe expands, just above the ground,) is from three to four inches, but it is often grown much larger. One purchased in the market of Aix-la-Chapelle, in October last, measured eighteen inches in circumference, and weighed, (exclusively of leaves and root,) four pounds, nine ounces, Prussian weight. It could not be estimated to have cost more than one half-penny English; and, having been cooked separately, by way of experiment, made a large dish, more than enough for five persons, at dinner, though no other vegetable was eaten, as it was preferred to all the rest on the table —*Ibid.*

—

Sugar from Beet Root.—At a dinner recently given by the town of Amiens to the King of France, there was placed on the table, opposite His Majesty, an immense column composed of sugar, manufactured from the beet root, at Franvillers, near Amiens. The column consisted of four different qualities of refined sugar, and crystals of raw sugar formed the pedestal. The manufacture of sugar from beet root, seems to be making great advances in France.—*Ibid.*

AGRICULTURAL WORKS.

A SHORT TREATISE ON HORTICULTURE: embracing descriptions of a variety of Fruit and Ornamental Trees, and Shrubs—Grape Vines—Bulbous Flowers—Green-house Trees, and Plants, &c. Directions for Culture, Management, &c. By William Prince. Price, $1.

Also, "**A TREATISE** on the **CULTIVATION** of **ORNAMENTAL FLOWERS**: compriring Remarks on the requisite Soil, Sowing, Transplanting, and general Management; with Directions for the general Treatment of Bulbous Flower Roots, Green-house Plants, &c. By Roland Green." Price, 37 cents

ECONOMY of the **KITCHEN-GARDEN**, the **ORCHARD**, and **VINERY**; with plain practical Directions, for Management. By William Wilson, Nursery-man." Price 75 cents.

A CONCISE and **PRACTICAL TREATISE** on the Growth and Culture of the Carnation, Pink, Auricula, Polyanthus, Ranunculus, Tulip, Hyacinth, Rose, and other Flowers; including a Dissertation on Soils and Manures, and containing Catalogues of the most esteemed varieties of each Flower. By Thomas Hogg, Florist. Third Edition.

ELEMENTS OF AGRICULTURAL CHEMISTRY, in a Course of Lectures, for the Board of Agriculture. By Sir Humphrey Davy, Bart. Pres. R. S. &c. Fourth Edition.

AN EASY INTRODUCTION to the **SCIENCE OF BOTANY**, through the medium of Familiar Conversations between a Father and his Son. By Robert John Thornton, M. D.

NEW OBSERVATIONS on the **NATURAL HISTORY** of **BEES**. By Francis Huber. Third Edition. Illustrated by Five Plates.

A PRACTICAL TREATISE on Breeding, Rearing, and Fattening all kinds of Domestic Poultry, Pheasants, Pigeons, and Rabbits. Also, Instructions for the Private Brewery. By Bonnington Moubray, Esq. Fifth Edition.

A TREATISE on the Improved Culture of the Strawberry, Raspberry, Gooseberry and Currant; in which are pointed out the best methods of obtaining ample Crops of these Fruits. To which are prefixed, Descriptions of the most esteemed Varieties. Third Edition. With Coloured Plates. By Thomas Haynes.

QUERIES

On the Culture of the Silk Worm; by RICHARD RUSH, *of the Treasury Department.*

"The following *Queries*, propounded by the Secretary of the Treasury, to the various persons in the United States, to whom a copy of the Resolution of the House of Representatives was transmitted," are intended to precede Mr. Spalding's article on the same subject, inserted in the beginning of our August number.

1. What efforts have been made in the State of ———, if any, and at what periods of time, to raise silk?

2. Whence was the silk-worm obtained? Is this insect a native of ———, and, if so, in what respects does it differ, if any, from the oriental or foreign silk-worm? Are there any varieties of this insect known in ———? Please to describe whatever kinds there may be.

3. Does the mulberry flourish in ———, in its different varieties; what soil suits it best; is the white mulberry an indigenous tree? If not, has it been found to thrive as well in the United States as the red and black mulberry? Which of the latter is indigenous, or, are both?

4. Does the silk-worm feed as well upon the red and black mulberry as upon the white? Is there any other leaf or plant known in this country upon which it does feed; and, above all, will it yield silk of equal quality when fed upon any other leaf or food, as upon that of the white mulberry?

5. Be pleased to state the best methods of raising and multiplying the several species of the mulberry tree; how it

what particular modes of treating it are required; the age at which it should begin to furnish food for the worm; whence trees or cuttings can be obtained for transplantation; the price per hundred; how many trees should be planted on an acre; and would it, or would it not, be profitable to cultivate the mulberry, for the purpose of feeding the worm, in the form of a bush or shrub?

6. What quantity of raw silk ought to be produced from an acre of full-grown mulberry trees, planted and reared in the best manner? How many silk-worms are required to produce a pound of raw silk? What quantity of raw silk can be produced from an acre of mulberry trees by other modes of cultivation than the full-grown tree?

7. Be pleased to state, as much in detail as may be in your power, the methods of treating the silk-worm, with a view to raising the best silk, and in the greatest quantity; embracing, particularly, the habits of the insect, as to appetite, cleanliness, position, or accommodations, whilst the cocoon is forming; the species of twig or branch on which it is best that it should be spun; temperature, and degree of light most favorable to the insect, and all other circumstances which may affect its health and strength, and its capacity to yield a perfect cocoon; also, a description of the process of forming the silk by the insect, until the cocoon is completed; the best modes of treating the cocoon, and of obtaining the silk; and how far the labour of females, children, and old men, may be usefully employed in the culture of silk?

8. What difference, if any, exists between the Chinese and Italian or Spanish worm; which country is reputed to produce the best insect, and what particular part of the country?

9. Does the climate of ——— admit of raising silk with full advantage in the open air; or is it best that the insect should always be housed? if the latter, what size and form of building or apartment is best fitted to its operations? If the silk be raised in the open air, is any shelter, and of what kind, required, as well from the rays of the sun as from wet, and to protect the insects from birds, and other animals that

10. Is there reason to suppose, that in some parts of the United States, the climate may admit of more than one crop of silk being raised from the silk-worm, in the course of the year, as in Asia? How will this inquiry apply to ———?

11. Have lightning and thunder been found to affect the silk-worm in our climate, and how far, if at all? Has any insect of our climate, or animal of any kind, been found to prey upon, or injure it, beyond those that are known to do so in other climates?

12. What is the greatest quantity of silk that has been raised in the State of ———, in any one year; into what articles or forms has it been manufactured—and have the manufactured articles been consumed at home or sent abroad—and where; where has the raw silk been sent when not wrought into manufactures?

13. What prices have the raw or manufactured silks commanded in the market of the United States, as compared with similar articles imported from Europe, China, or the East Indies? What progress has been made, in the drawing, spinning, and twisting of sewing silk in any part of ———? Have its strength and evenness been equal to the French, English, or Italian sewing silk? How have we succeeded in the colouring or dying? All information on this head will be acceptable.

14. Will you be pleased to describe, with as much particularity as may be, the machinery most approved for winding off the silk from the cocoon; for forming it into organzine or thrown silk; and for manufacturing silk into all its different forms, (including velvets) whether for clothing, furniture, or any other purpose? If within your power and convenience to add a sketch or drawing of any or all of the above machinery, it would bo acceptable.

15. Describe the difference in the quality of the silk produced from all the different varieties of the silk-worm, and annex, if in your power, a drawing (coloured) of all the varieties of this insect, in its moth and other states. Is the insect brought from abroad supposed to degenerate in the United States, and if so, to what causes is it imputed, and how are they best to be obviated? What are the proper rules to be observed in the choice of eggs, in the choice of cocoons for seed, and in the choice of the insect for laying eggs?

16. If silk has been raised at any periods heretofore in ——, but not at present, what are supposed to be the causes that have led to its discontinuance?

17. Please to state any other facts or circumstances that may bear upon the objects or spirit of the resolution above referred to of the House of Representatives of the United States, though not specially comprehended under any of the foregoing inquiries.

RICHARD RUSH.

TREASURY DEPARTMENT,
29th July, 1826.

Directions to the Binder.

Place this quarter sheet, (folio *337 to *340,) at the beginning of the August number.